THAT WHICH IS CLAIMED IS:

1. Process for reducing the second-order nonlinearity of a frequency transposition device comprising a current switching circuit with two differential pairs of transistors (Q10, Q11, Q20, Q21) controllable by a local oscillator signal (LO), characterized in that the two differential pairs being statically mutually disconnected and dynamically mutually connected, it comprises a current switching circuit calibration mode, in which the local oscillator (LO) is rendered inactive and each of the two pairs is calibrated in succession by zeroing the earth path current (Idc2) of the pair (Q20, Q21) not undergoing calibration and by setting the voltage difference applied to the bases of the transistors of the pair (Q10, Q11) undergoing calibration until the output voltage (Vout) of the frequency transposition device is zeroed to within some accuracy, and the base voltage difference thus obtained is stored, and a normal operating mode in which the local oscillator (LO) is rendered active and the two voltage differences stored respectively on completion of the calibration mode are applied to the bases of the transistors of the two pairs.

2. Process according to Claim 1, characterized in that in the calibration mode the phase of setting of the base voltage difference comprises a detection (CMP) of the changing of sign of the difference in output voltage (Vout).

3. Process according to Claim 1 or 2, characterized in that the voltage difference applied to the bases of the two transistors of a pair is provided by a digital analog converter (DAC1, DAC2) in response to a digital control word, in that the phase of setting of the base voltage difference comprises a modifying of the digital control word, and in that the storing of the base voltage difference finally obtained on completion of the calibration comprises a storing of the corresponding digital control word.

4. Process according to Claim 2 and 3, characterized in that the digital control word (MNC) is modified until the changing of sign of the output voltage difference is detected.

5. Frequency transposition device comprising a current switching circuit with two differential pairs of transistors controllable by a local oscillator signal, characterized in that the two differential pairs (Q10, Q11, Q20, Q21) are statically mutually disconnected and dynamically mutually connected, in that it comprises a calibration loop activatable on command and able to calibrate each differential pair by setting the voltage difference applied to the bases of the transistors of the pair undergoing calibration until the output voltage of the frequency transposition device is zeroed to within some accuracy, storage means (RG1, RG2) able to store for each pair the base voltage difference obtained after calibration, control means (PBB) able either to render the local oscillator inactive and to activate the calibration means by zeroing the earth path current of

each pair in succession, or to render the local oscillator active, to deactivate the calibration loop and to apply the two voltage differences stored respectively in the storage means to the bases of the transistors of the two pairs.

6. Process according to Claim 5, characterized in that the calibration loop comprises detection means (CMP) able to detect the changing of sign of the output voltage difference.

7. Device according to Claim 6, characterized in that the detection means comprise a comparator (CMP) whose two inputs are linked to the two differential outputs of the device.

8. Process according to Claim 6 or 7, characterized in that the calibration loop comprises two digital/analog converters (DAC1, DAC2) respectively connected to the bases of the transistors of the two pairs, each converter being able to apply a voltage difference to the bases of the transistors of the corresponding pair in response to a digital control word, and monitoring means (CTL) connected to the output of the detection means and able to formulate successive control words until a stop signal delivered by the detection means is received.

9. Device according to Claim 8, characterized in that each converter (DAC1, DAC2) is able to deliver a voltage difference proportional to the absolute temperature.

10. Device according to Claim 8 or 9, characterized in that the control means (PBB) are able to deactivate the calibration loop by deactivating the detection means and the monitoring means.

11. Device according to one of Claim 5 or 10, characterized in that the bases of the two homologous transistors of each pair are linked by way of two capacitors connected in series, and in that the midpoint of the two capacitors is connected to the local oscillator.

12. Device according to Claim 5 or 11, characterized in that it is embodied in integrated form.

13. Component of a wireless communication system, characterized in that it incorporates a frequency transposition device according to one of claims 5 to 12.

14. Component according to Claim 13, characterized in that it forms a cellular mobile telephone.